

IN THE CLAIMS

The following claim set replaces all prior versions, and listings, of claims in the application:

1 to 21 (Cancelled).

22. (Currently Amended) A substantially vertical vessel ~~having a vertical internal surface, and~~ comprising:

an inlet at or adjacent a top portion of said vessel;

an outlet at or adjacent a bottom portion of said vessel; and

a first screen assembly in said vertical vessel,

a second screen assembly in said vertical vessel and vertically aligned with said first screen assembly,

a vertical internal surface of said vessel between said first and second screen assemblies;

at least one substantially continuous annular protrusion connected to said vertical internal surface and in a substantially horizontal plane, and having a maximum spacing from said internal surface of between about 1-12 inches, said protrusion having a surface area exposed in said vessel and said surface area being substantially entirely impervious, and said annular protrusion having a cross-section selected from the group consisting essentially of right, isosceles, or scalene triangular, arcuate, and rectangular, and wherein said annular protrusion has an inner circumference defining a perimeter of a substantially hollow region with the vessel and in the horizontal plane.

23. (Previously Presented) A vessel as recited in claim 22 wherein said protrusion has a substantially isosceles triangular cross-section with an apex angle between about 10-175 wherein said protrusion has an annular upper side and annular lower side forming the triangular cross-section, and said sides are both impervious.

24. (Original) A vessel as recited in claim 22 further comprising a plurality of said protrusions, vertically spaced from each other between about 1-12 feet, and each having a height of between about 1-3 feet.

25. (Previously Presented) A vessel as recited in claim 22 wherein said protrusion is arcuate in cross-section with a radius of curvature equal to or greater than its height, wherein said surface area of the protrusion is impervious along an entirety of the radius of curvature.

26. (Currently Amended) A vessel as recited in claim 22 wherein said first screen assembly is adjacent at upper end of said vertical internal surface and said second screen assembly is adjacent at lower end of said vertical internal surface ~~further comprising at least one screen assembly within said vessel, wherein said at least one protrusion being vertically offset in said vessel from said screen assembly.~~

27 to 32 (cancelled).

REMARKS

Reconsideration of this application is respectfully requested. The courtesy of the Examiner during the interview of October 14, 2003, is appreciated. As is indicated in the Interview Summary, there was a discussion during the interview of the differences between the claimed invention and the vessel shown in the Canadian '733 Patent and regarding the term "pervious" used in the claims.

Claim 22 has been amended to clarify that the protrusion is on a vertical wall of the vessel that is between upper and lower screen assemblies.

The rejection of claims 22 to 25 as being obvious over Canadian Patent Application 2,243,733 (CAN '733) is traversed. A complete copy of CAN '733 is attached. CAN '733 discloses a strainer and screen assemblies, but does not disclose an annular protrusion on a vertical vessel wall that is separate from screen assemblies and impervious to material in the vessel, as does the vessel recited in the pending claims.

Independent claim 22 has been amended to make especially clear that the annular protrusion is impervious and is mounted on a vertical surface of the vessel that is separate from the screen assemblies. Accordingly, cooking liquor and fibers do not seep into the protrusion ring. The applied prior art show rings of a screen assembly that are porous to allow cooking liquor and/or fibers to seep through the ring.

The claims recite several features that are not disclosed in the CAN '733 including (without limitation):

- A. An annular protrusion on a vertical interior surface of the vessel where the protrusion and surface are separate from the screen assemblies.
- B. An annular protrusion having an exposed surface area that is “substantially entirely impervious.” (claim 22).
- C. An annular protrusion having a maximum spacing from the vessel wall of one to 12 (1-12) inches. (claim 22).
- D. Protrusions vertically spaced from each other by one to twelve (1-12) feet. (claim 24).
- E. Protrusions that are impervious along the radius of curvature of their arcuate surface area. (claim 25).

The claimed invention is directed to a vessel, e.g., digester cooking vessel, having substantially vertical internal walls and protrusions, e.g., compressions rings, on those walls. See e.g., Spec. p. 2, Ins. 6-7. The protrusions on the walls promote vertical movement of the fibrous slurry in the cooking vessel. The protrusions are separate and distinct from the screening assemblies within the vessel. Figure 1 shows that the screen assemblies 14, 15, 16 and 17, are at different horizontal levels in the vessel than are the protrusions, 21 to 27. Moreover, the protrusions are at horizontal levels in the vessel that are otherwise substantially hollow in the circular area defined by the inner circumference of the protrusion. In particular, the protrusions extend inward from the walls of the

vessel no more than one to 12 inches and the remainder of the vessel at the same horizontal level is open, as is shown in Figures 2 to 7. In contrast, screen assemblies substantially fill an entire horizontal level of the vessel and thus extend much further beyond the 12 inch limit recited in the claims herein.

CAN '733 discloses porous extraction screen assemblies at Figures 7B, 16A and 16B that allow liquor to be extracted from the slurry in the vessel. The extraction screens are not impervious, as is required by the amended claims. Further, there is no suggestion in CAN '733 that the annular screens can be something other than a screen. In particular, CAN '733 at page 9, lines 27 to 28 state that the screens may be continuous -- not that the screens may be something other than screens. It would not have been obvious to convert the screens and strainers in Schnyder and CAN. '933 into the impervious protrusions claimed in the rejected claims.

The rejection of claims 22 to 26 for lack of a written description (section 112, first paragraph) is traversed. The term "impervious" is defined in the dictionary as "not allowing entrance or passage through". Webster's Third New International Dictionary, p. 1134 (1993). The protrusion rings 28, 32, 36 to 39, 41, 42 and 22 shown in Figures 2 to 7 are solid metal -- as is described at page 7 of the specification and as is evident from the hatched cross-sectional view of those rings. MPEP 608.02 (see hatched drawing as being convention for indicating a solid metal object). A solid metal ring has an "impervious" surface. Further, the annular protrusion "has an inner circumference defining a perimeter of a substantially hollow region with the vessel and in the horizontal

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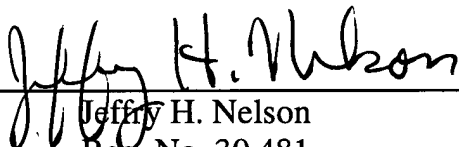
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plane" as is evident from Figures 2 to 7 that each show a ring having an inner circumference that defines a circular region of the digester that is hollow so as to receive the chip slurry that flows through the digester. Accordingly, there is a written description in the text and drawings of this application for the claimed invention.

All claims are in good condition for allowance. If any small matter remains outstanding, the Examiner is requested to telephone the undersigned. Prompt reconsideration and allowance of this application is requested.

Respectfully submitted,

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